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POLICE VILLAGE OF SOMBRA
COUNTY OF LAMBTON
1966

THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF SOMBRA

COUNTY OF LAMBTON

1966

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Report on a water pollution
survey of the police village of
Sombra in the township of
Sombra in the county of Lambton.
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REPORT

ON A

WATER POLLUTION SURVEY

OF THE

POLICE VILLAGE OF SOMBRA

IN THE

TOWNSHIP OF SOMBRA

IN THE

COUNTY OF LAMBTON

MARCH 1966

DIVISION OF SANITARY ENGINEERING

ONTARIO WATER RESOURCES COMMISSION

A water pollution survey of municipal surface-water drains and storm sewers, and of private surface-water drains, in the Police Village of Sombra, was made on March 29, 1966.

Mr. R.E. Bradshaw, Clerk, Township of Sombra, provided information pertinent to the survey. Mr. W.J. McGee, Councillor, Township of Sombra, assisted in the investigation and sampling programme.

GENERAL

The Village of Sombra, with a population of 322, (Municipal Directory 1965), is located along Highway No. 40, on the east shore of the St. Clair River, approximately 18 miles south of the City of Sarnia.

General drainage from the area flows into the St. Clair River. Local drainage is provided by municipal surface-water drains, storm sewers, and private surface-water drains, all of which discharge into the St. Clair River.

Septic tank systems are utilized on most properties for treatment and disposal of sanitary sewage. A few privies are also in operation.

The purpose of the survey is to determine the water quality in the municipal and private drains which discharge from the Village area into the St. Clair River watercourse.

The sanitary chemical analyses, and the findings of bacteriological examinations, of samples collected where possible, at the outfalls of the various surface-water drains are tabulated in Table 1.

The location of the sampling points are designated on the accompanying map by mileage distances from the mouth of the St. Clair River.

INTERPRETATION OF ANALYSES

For convenience in the interpretation of the laboratory analyses, the Ontario Water Resources Commission water quality objectives for surface-water drains are as follows:

5-Day BOD (Biochemical Oxygen Demand)
- not greater than 15 ppm (Parts per Million)

Suspended Solids
- not greater than 15 ppm (Parts per Million)

Coliforms - (Membrane Filter)
- not greater than 2400 per 100 millilitres

Anionic Detergent (as ABS)
- The presence of anionic detergent usually indicates pollution from domestic sources.

SIGNIFICANCE OF LABORATORY ANALYSES

By comparing the laboratory analyses of samples collected from the surface water drains with the water quality objectives, it is readily noted that all drains investigated are discharging polluting materials into the St. Clair River Watercourse. (Table 1).

Several private drains in addition to those listed in Table 1, were located, and appeared to be connected to almost every property along St. Clair Street. Most of them had very low flow, but several had indications of septic tank discharges and other domestic type wastes around the outfall area.

The analyses of the discharge from four of these private drains are listed in Table 1, sample numbers SC 17.00, SC 17.09, SC 17.25, and SC 17.24. The excessively high BOD, Coliform count and anionic detergent content, indicate that polluting wastes are being carried and discharged into the water-course from these drains.

The level of pollution being discharged from the municipal surface-water drains is also extremely high. The high coliform counts, and anionic detergent concentrations, indicate that domestic sewage is the probable source of the pollution.

One potential source of industrial waste was located. A slaughter-house owned and operated by J. Nantais and Sons, is situated on the East side of John Street between Smith and South Streets. It was reported that an average of five beef and two hogs per week are processed. The plant was not in operation at the time of the survey.

A two compartment septic tank of unknown capacity is said to be installed on the property. No field tile disposal bed is being utilized. Liquid processing waste, including blood, is discharged into the septic tank from which a direct connection discharges the overflow presumably into the King Street municipal surface-water drain. The King Street drain in turn discharges into the St. Clair River.

The discharge of polluting materials into a watercourse from a municipal industrial, or private property or operation, constitutes a violation of regulations under the Ontario Water Resources Commission Act, Section 27, Subsection (1) which states:

" Every municipality or person that discharges or deposits or causes or permits the discharge or deposit of any material of any kind into or in any well, lake, river, pond, spring, stream, reservoir or other water or watercourse or on any shore or bank thereof or into or in any place that may impair the quality of the water of any well, lake, river, pond, spring, stream, reservoir or other water or watercourse is guilty of an offence and on summary conviction is liable to a fine of not more than \$1,000 or to imprisonment for a term of not more than one year, or to both".

SUMMARY

A water pollution survey was conducted in the Village of Sombra on March 29, 1966.

The visual observations and findings of the survey verify that polluting materials are being discharged into the St. Clair River from the various drains throughout the municipality. The extremely high BOD, Coliform Counts and anionic detergent concentrations indicate that sanitary sewage and other domestic wastes are the major sources of the pollution.

These wastes are being discharged into the surface-water drains from domestic and commercial properties, for which adequate sewage and waste treatment facilities are not provided.

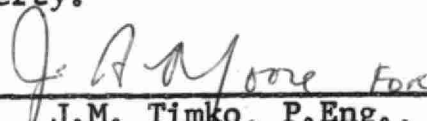
RECOMMENDATIONS

1. A pollution abatement programme should be instituted for the Village of Sombra, which would entail the installation of a sanitary sewer collection system and the provision of an adequate means of sewage treatment.

2. In the event that such a programme is not feasible, it will then be necessary for the municipality to take measures to ensure that all private drains, which discharge inadequately treated wastes into any surface-water drain, storm sewer, or water-course, are immediately located and severed.

This action will then necessitate that each property owner provide an adequate system for the treatment of wastes which have been produced on his property.

Approved by:


J.M. Timko, P.Eng.,
District Engineer,
Division of Sanitary Engineering.

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Prepared by:

J.K. Ferris

TABLE IVILLAGE OF SOMBRA - WATER POLLUTION SURVEYSURFACE-WATER DRAINS - OUTFALLS TO ST. CLAIR RIVER

<u>Location of Sampling Points</u>	<u>Description of Sampling Points</u>	<u>5-Day BOD (ppm)</u>	<u>S O L I D S</u>			<u>Anionic Detergent as ABS</u>	<u>Coliforms per 100 ml Membrane Filter</u>
			<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>		
			<u>(ppm)</u>	<u>(ppm)</u>	<u>(ppm)</u>		
SC 17.00	100 ft. South of South-Private Drain.	60.0	572	45	527	20.0	12,000,000
SC 17.02	South St.- W.	19.0	378	26	352	2.5	1,060,000
SC 17.09	Private Drain opposite Rest Home.	1700.0	5202	4672	530	50.0	91,000,000
SC 17.10	100 ft. S. of King St. - W.	15.6	192	9	183	0.7	830,000
SC 17.20	Smith St. - W.	12.0	464	19	445	1.1	260,000
SC 17.25	Opposite Stover property (Private Drain).	28.0	502	17	485	5.7	14,000,000
SC 17.27	100 ft. S. of Middle St.(Private Drain).	8.4	722	8	714	2.3	134,000
SC 17.32	Middle St. - W.	DRIP FLOW					

TABLE I (CONTINUED)

VILLAGE OF SOMBRA - WATER POLLUTION SURVEY

SURFACE-WATER DRAINS - OUTFALLS TO ST. CLAIR RIVER

Location of Sampling Points	Description of Sampling Points	5-Day BOD (ppm)	S O L I D S			Anionic Detergent as ABS	Coliforms per 100 ml Membrane Filter
			Total (ppm)	Susp. (ppm)	Diss. (ppm)		
SC 17.33	50' North of Middle St. (Private Drain).	DRIP FLOW - INDICATION OF DOMESTIC WASTE					
SC 17.36	George St. - W.	295.0	1242	700	542	48.0	16,000,000
SC 17.42	Forsythe St. - W.	7.6	290	10	280	2.2	202,000
SC 17.43	100 ft. North of Forsythe St. (Private Drain)	NO FLOW					
SC 17.48	North St. - W.	148.0	632	52	580	14.2	420,000
SC 17.60	Watson Creek Drain - D.	22.0	520	210	310	2.3	42,000,000

